AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (*Currently Amended*) An optical demultiplexing system for demultiplexing a multiplexed signal that has at least three levels of granularity and consists of m interleaved bands of wavelengths, each interleaved band consists of p wavelengths, said system includes a 1-to-m deinterleaving demultiplexer for demultiplexing said multiplexed signal into m bands of wavelengths and a 1-to-p deinterleaving demultiplexer for demultiplexing each of said m bands of wavelengths into p wavelengths, and in which said numbers m and p are always mutually prime.

2. (*Original*) The system claimed in claim 1 wherein said 1-to-m deinterleaving demultiplexer uses interleaved band filtering with a periodic transfer function.

3. (*Original*) The system claimed in claim 2 wherein said interleaved band filtering is based on Mach-Zehnder filters or on array waveguide gratings.

4. (*Original*) The system claimed in claim 1 wherein said 1-to-p deinterleaving demultiplexer uses channel filtering with a periodic transfer function.

5. (*Original*) The system claimed in claim 4 wherein said channel filtering is based on Mach-Zehnder filters or array waveguide gratings.

6. (*Currently Amended*) An optical multiplexing system for obtaining a multiplexed signal that has at least three levels of granularity and consists of m interleaved bands of wavelengths, each interleaved band consists of p wavelengths, said system includes m p-to-1 interleaving multiplexers, each multiplexing p wavelengths into a band of wavelengths, and a m-to-1 interleaving multiplexer for multiplexing said m bands of wavelengths into a fiber, and in which said numbers m and p are always mutually prime.